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Tabanidae (Diptera) holotypes in the KwaZulu-Natal Museum collection: Part 1. *Haematopota* Meigen, 1803

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Abstract

All primary (name-bearing) types of *Haematopota* Meigen, 1803, deposited in the KwaZulu-Natal Museum (NMSA) are documented - *Haematopota anomala* Travassos Dias, 1956 (Mpumalanga, South Africa); *Haematopota diasi* Travassos Dias, 1956 (Gauteng, South Africa); *Haematopota megaera* Usher, 1965 (Eastern Cape, South Africa); *Haematopota mephista* Usher, 1965 (KwaZulu-Natal, South Africa); *Haematopota montisdraconis* Usher, 1965 (Eastern Cape, South Africa); *Haematopota ovazzai* Travassos Dias, 1956 (Eastern Cape, South Africa); *Haematopota quathlambia* Usher, 1965 (KwaZulu-Natal, South Africa); *Haematopota spectabilis* Oldroyd, 1952 (Northern Cape, South Africa); *Haematopota tropai* Travassos Dias, 1956 (Reunion). The reference to the original publication, including the original name, the type locality and the collector, is provided for each species. In addition, brief remarks and colour photographs are provided. This is the first in a series of publications on the primary types of the Tabanidae of the KwaZulu-Natal Museum.

Keywords

Clegs, holotype, horse fly, NMSA, type specimen

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Introduction

The Entomology Department of the KwaZulu-Natal Museum was established when Dr B. R. Stuckenberg was appointed in 1953 and is largely biased towards Diptera (Barraclough and Whittington 1994). The collection consists of approximately 250,000 specimens and is one of the largest and most representative collections of Afrotropical flies in the Southern Hemisphere. It has been expanded and consolidated, both by extensive collecting in southern Africa and by the acquisition of other significant regional collections. The Transvaal Museum's (now Ditsong Museum of Natural History - TMSA) Diptera collection was obtained by exchange in 1975 and the collection of Dr Fritz Zumpt that was housed at the South African Institute of Medical Research was donated in 1983 (Barraclough and Whittington 1994).

The collection of flies contains more than 2000 primary types and over 11700 secondary types. It is housed in almost 1000 wooden insect drawers together with an alcohol and slide collection.

Tabanids have both veterinary and medical importance as vectors of disease but some genera are also important pollinators (Johnson and Steiner 1997; Johnson and Morita 2006; Baldacchino et al. 2014, 2017). The Tabanidae collection of the KwaZulu-Natal Museum is one of the largest in southern Africa (Snyman et al. 2020). The collection contains 40 primary and 118 secondary tabanid types in 11 genera. It was actively worked on by Pamela Stuckenberg (nèe Usher) in the 1960s and 1970s (Barraclough and Whittington 1994). Visiting researchers have worked on the collection since then, but it has not been extensively used in recent years.

Making museum records available in electronic format is one way of increasing access to specimen data. Another way is to provide images of the specimens. Due to the costs of posting specimens around the world and the unreliable nature of the postal service, many institutions do not allow their type specimens to be sent out on loan. If researchers do not have the money to visit the collections, then photographs are the best option for viewing the specimens.

Tabanidae are notoriously difficult to identify, with misidentifications not only present in recent publications, but also in molecular libraries (Williams et al. unpublished data). Due to the economic, medical and veterinary importance of Tabanidae, coupled with the seemingly renewed research interest in the Afrotropics, image-rich catalogues of type specimens are an invaluable research aid. Such catalogues will hopefully not only aid in identifications, but have downstream effects, increasing the accuracy of molecular libraries and reducing ambiguity in vector biology.

The Haematopotini type specimens, housed in the KwaZulu-Natal Museum collection, represent a single genus, *Haematopota* Meigen, 1803. The holotypes of *Haematopota* housed in the KwaZulu-Natal Museum collection, including information on the associated paratypes, are presented here in an image-rich catalogue.

This is the first in a series of publications on the primary types of the Tabanidae of the KwaZulu-Natal Museum. Information is provided on the species with comments on the physical condition of the specimens.

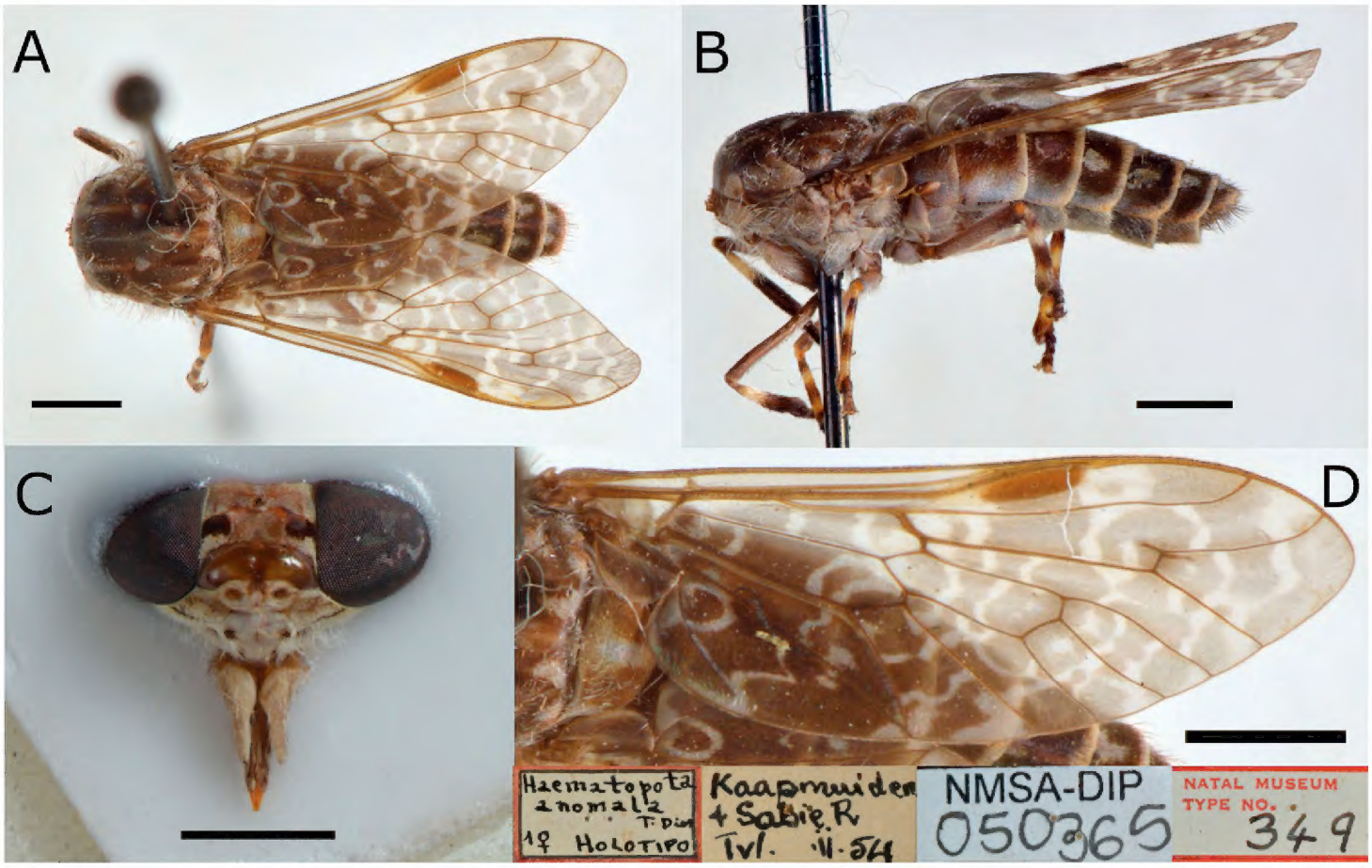

Figure 1. *Haematopota anomala* holotype **A** dorsal **B** lateral **C** head **D** wing. Scale bars: 2 mm.

Methods and materials

All the specimens were photographed using a Nikon D3200 digital SLR with an AF-S Micro Nikkor 105 mm 1:2.8G lens. Photos were stacked using Helicon Focus 7 software and images were manipulated using Photopea online software. Plates of the images were produced using Corel PaintShop Pro X8.

The label information stated for each holotype lists the new South African province names in square brackets where appropriate.

List of Primary Types

Genus *Haematopota* Meigen, 1803

Haematopota anomala Travassos Dias, 1956: 24 figs 11 and 12.

Holotype. South Africa • ♀; [Mpumalanga] Sabie River, Kaapmuiden, February 1954; NMSA-Dip 050365; type number 349. Fig. 1A–D.

Current Status. *Haematopota anomala* Travassos Dias, 1956; original combination.

Remarks. The holotype was deposited in the collection at the South Africa Institute for Medical Research (SAIMR). Part of the fly collection of the SAIMR was donated to the Natal Museum (now KwaZulu-Natal Museum - NMSA) in 1983. There is

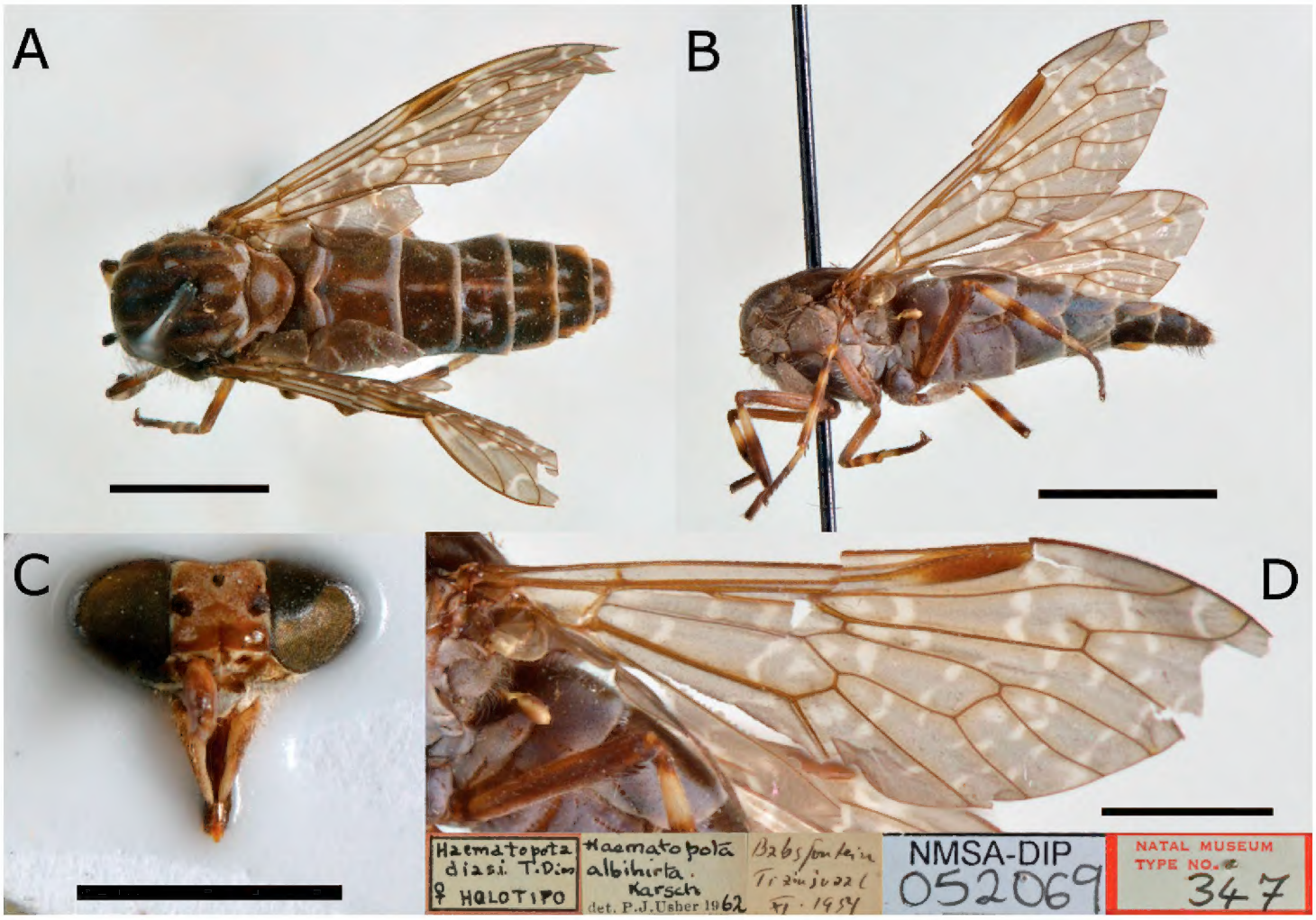

Figure 2. *Haematopota diasi* holotype **A** dorsal **B** lateral **C** head **D** wing. Scale bars: 3 mm (**A, C**); 4 mm (**B, D**).

no collector indicated on the label, but in the publication Dr F. Zumpt is identified as the collector. There are no other specimens of this species in the collection. The condition of the specimen is fair. The head lacks both antennae and is glued to a card which is pinned below the specimen.

***Haematopota diasi* Travassos Dias, 1956: 7 figs 2 and 3.**

Holotype. South Africa • ♀; Transvaal [Gauteng], Bapsfontein, November 1954; NMSA-Dip 052069; type number 347. Fig. 2A–D.

Current Status. *Haematopota albihirta* Karsch, 1877.

Remarks. Pamela Usher identified the specimen as a synonym of *Haematopota albihirta* in 1962, although the synonomy was only published in 1972 (Usher 1972). The collection date in the publication is recorded as September 1954, but the date on the specimen label is November 1954. The holotype was deposited in the collection at the SAIMR. Part of the fly collection of the SAIMR was donated to the Natal Museum (now KwaZulu-Natal Museum -NMSA) in 1983. There is no collector listed on the labels, but the publication lists Dr F. Zumpt as the collector. The condition of the specimen is fair. There is some damage to the wings. The head of this specimen is glued to a card which is pinned below the specimen. One complete antenna and one flagellum is missing. The tarsi of both forelegs and one of the hindlegs is missing.

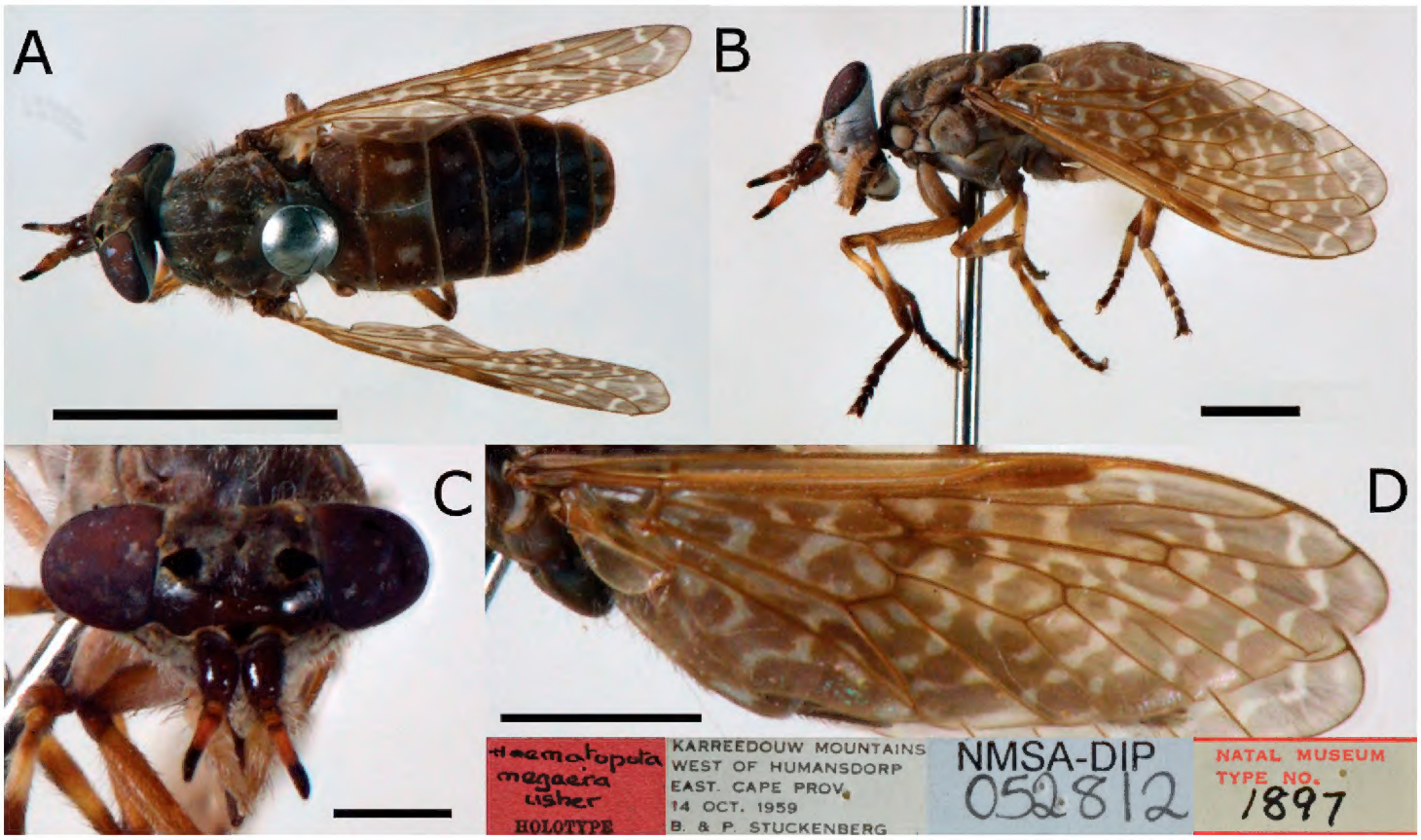

Figure 3. *Haematopota megaera* holotype **A** dorsal **B** lateral **C** head **D** – wing. Scale bars: 5 mm (**A**); 2 mm (**B, D**); 1 mm (**C**).

***Haematopota megaera* Usher, 1965: 56 figs 8c, d and 9b.**

Holotype. South Africa • ♀; Eastern Cape, Karreedouw Mountains, west of Humansdorp, 14 October 1959; Collectors: B & P Stuckenberg; NMSA-Dip 052812; type number 1897. Fig. 3A–D.

Current status. *Haematopota megaera* Usher, 1965; original combination.

Remarks. The publication lists seven female paratypes with the same collecting information in the Natal Museum (now KwaZulu-Natal Museum - NMSA) collection. No paratypes of this species were found in the collection. There are only two other specimens of this species in the collection also from the Humansdorp area from 1965. The holotype is in good condition.

***Haematopota mephista* Usher, 1965: 52 figs 8a, b and 9a.**

Holotype. South Africa • ♀; [KwaZulu-Natal] Town Bush, Pietermaritzburg; Collectors: B & P Stuckenberg; NMSA-Dip 052789; type number 1896. Fig. 4A–E.

Current status. *Haematopota mephista* Usher, 1965; original combination.

Remarks. There is no collecting date for this specimen on the label, but the publication records it as December 1961. The location is recorded as Town Bush Valley in the publication. There are eight female and one male paratypes listed in the publication but no indication where they were deposited. They are not in the KwaZulu-Natal Museum collection. There are two other specimens with the same collecting information

Figure 4. *Haematopota mephista* holotype **A** lateral **B** abdomen **C** wings and abdomen **D, E** wings. Scale bars: 4 mm (**A**); 3 mm (**B, C**); 2 mm (**D, E**).

as the type that were identified by Usher in the KwaZulu-Natal Museum collection. The specimen is in poor condition – both wings and the abdomen are glued to a card pinned below the thorax. The head and both hindlegs are missing.

***Haematopota montisdraconis* Usher, 1965: 58 fig. 10a–d.**

Holotype. South Africa • ♀; Eastern Cape, Naude's Nek; NMSA-Dip 052789; type number 1896. Figs 5A–D & I-IV.

Current status. *Haematopota montisdraconis* Usher, 1965; original combination.

Remarks. The holotype label does not contain a date or collector. In the publication, four paratypes are listed as having the same collecting information. Two of the paratypes have labels stating "Naudes Nek [sic], Barkly East District, Eastern Cape Province, 2350 – 2525 m, 19 Jan 1963// Collectors: B & P Stuckenberg". It is therefore assumed that this information is the same for the holotype. The holotype and paratypes all have type labels with the name "*Haematopota dracomontana*, Usher" which is assumed to be the name Usher assigned before she published it as *Haematopota montisdraconis*. The four paratypes – two male and two female - listed in the publication are in the KwaZulu-Natal Museum collection. The specimen is in poor condition. The head lacks both antennae and is glued to a card pinned below the specimen. A piece of one of the wings is also glued to the card and the remainder of the wing is missing. The two male paratypes are in good condition (NMSA-DIP 136319, NMSA-DIP 052768) – one is missing the ends of its flagellum (NMSA-DIP 052768). The head of one of the female paratypes is glued to a

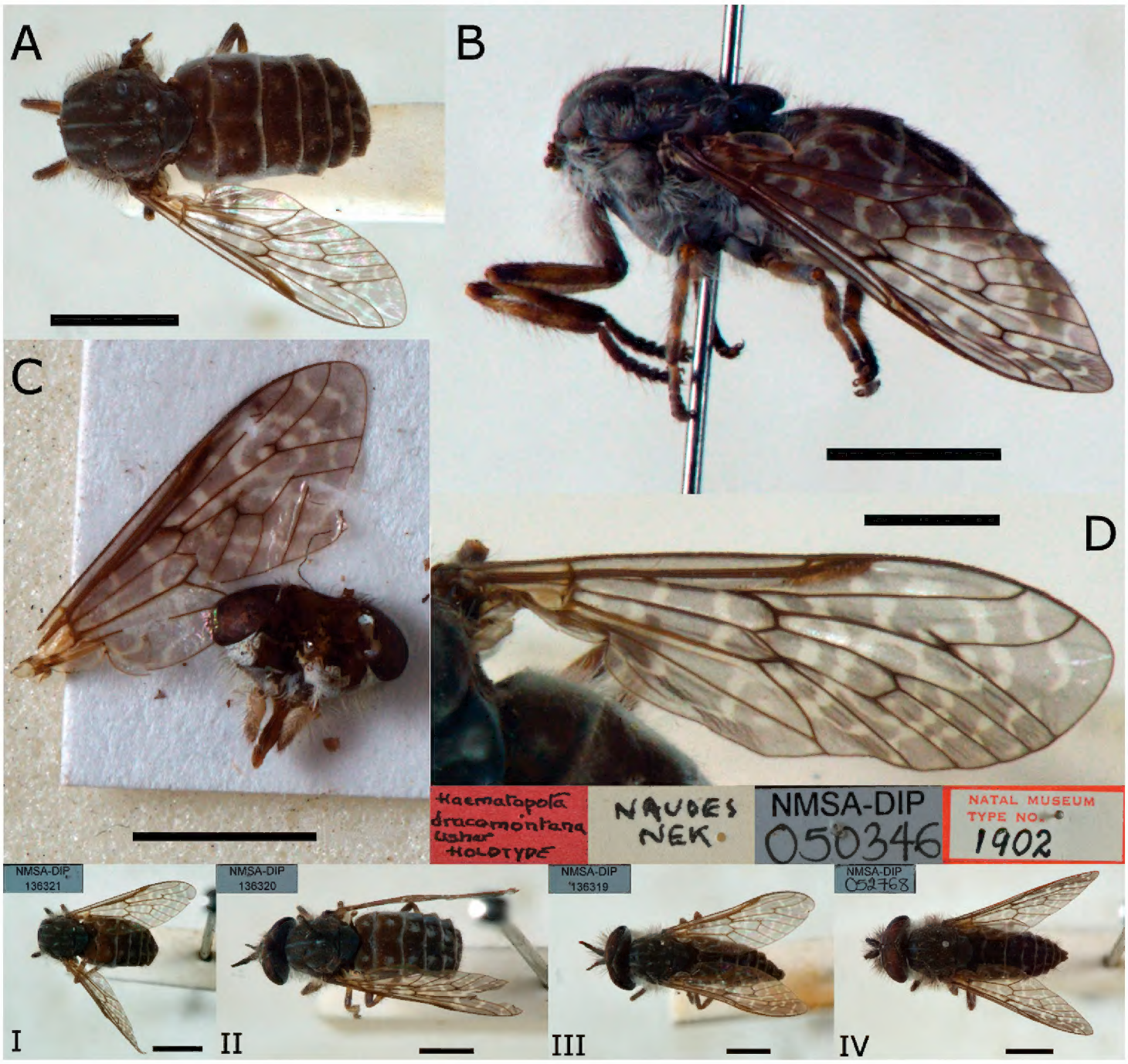

Figure 5. *Haematopota montisdraconis* holotype **A** dorsal **B** lateral **C** head and wing **D** wing **I–IV** paratypes. Scale bars: 3 mm (**A, C, I, IV**); 2 mm (**B, II, III**); 1 mm (**D**).

card pinned below the specimen (NMSA-DIP 136321) and the other specimen is in good condition (NMSA-DIP 136320).

Haematopota ovazzai Travassos Dias, 1956: 17 figs 7 and 8.

Holotype. South Africa • ♂; Eastern Cape, Aliwal North, Kapland, 8 December 1914?; Collector: Dr Brauns; NMSA-Dip 048349; type number 363. Fig. 6A–D.

Current status. *Haematopota ovazzai* Travassos Dias, 1956; original combination.

Remarks. The collection date on the label is difficult to decipher and is either 1914 or 1924. Both of these dates are feasible as Dr Brauns lived in the Eastern Cape from 1900 until his death in 1929. The locality recorded in the publication is Acineac-Nowa. Cabo. This appears to have been incorrectly transcribed by Dias. The locality

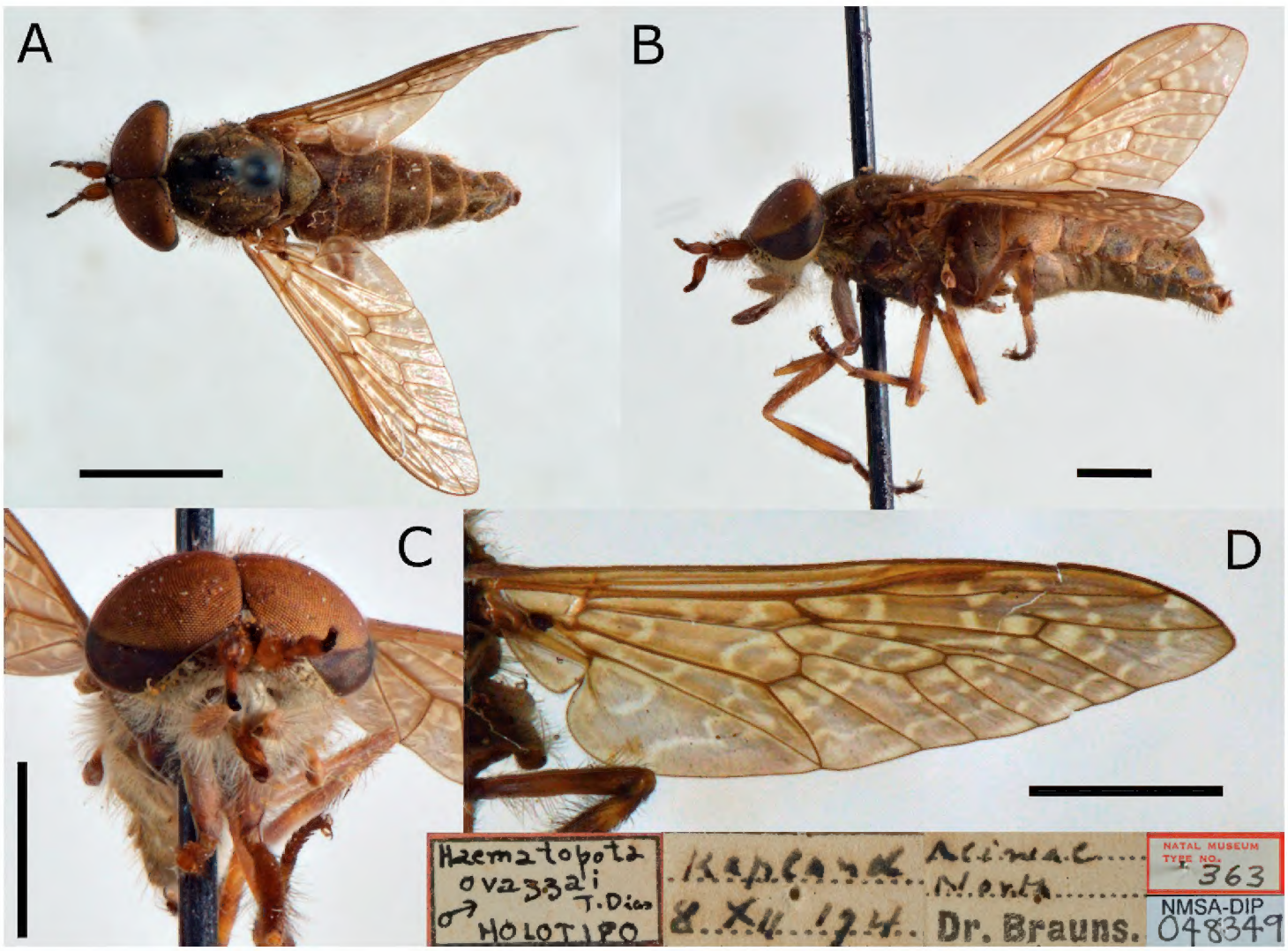

Figure 6. *Haematopota ovazzai* holotype **A** dorsal **B** lateral **C** head **D** wing. Scale bars: 5 mm (**A**); 2 mm (**B, D**); 1 mm (**C**).

of Aliwal North, Kapland, appears to be the correct name. This would agree with the locality of Aliwal North that is in the Eastern Cape Province. Apart from some inevitable fading colouration, the holotype is in a good state.

Haematopota quathlambia Usher, 1965: 62 fig. 11a–d.

Holotype. South Africa • ♀; Natal [KwaZulu-Natal], Cathedral Peak area, ca. 6800 ft, 6 February 1961; Collectors: B & P Stuckenberg; NMSA-Dip 053181; type number 1989. Fig. 7A–E.

Current status. *Haematopota quathlambia* Usher, 1965; original combination.

Remarks. Apart from both wings which are glued to a piece of card, the specimen appears in good condition and well-preserved colour. There is only one other specimen of this species in the KwaZulu-Natal Museum collection.

Haematopota spectabilis Oldroyd, 1952: 164 no figures.

Holotype. South Africa • ♀; Cape Province [Northern Cape], Richmond, 24 November, 1916; Collector: G.A.H. Bedford; NMSA-Dip 051999; type number 365. Fig. 8A–D.

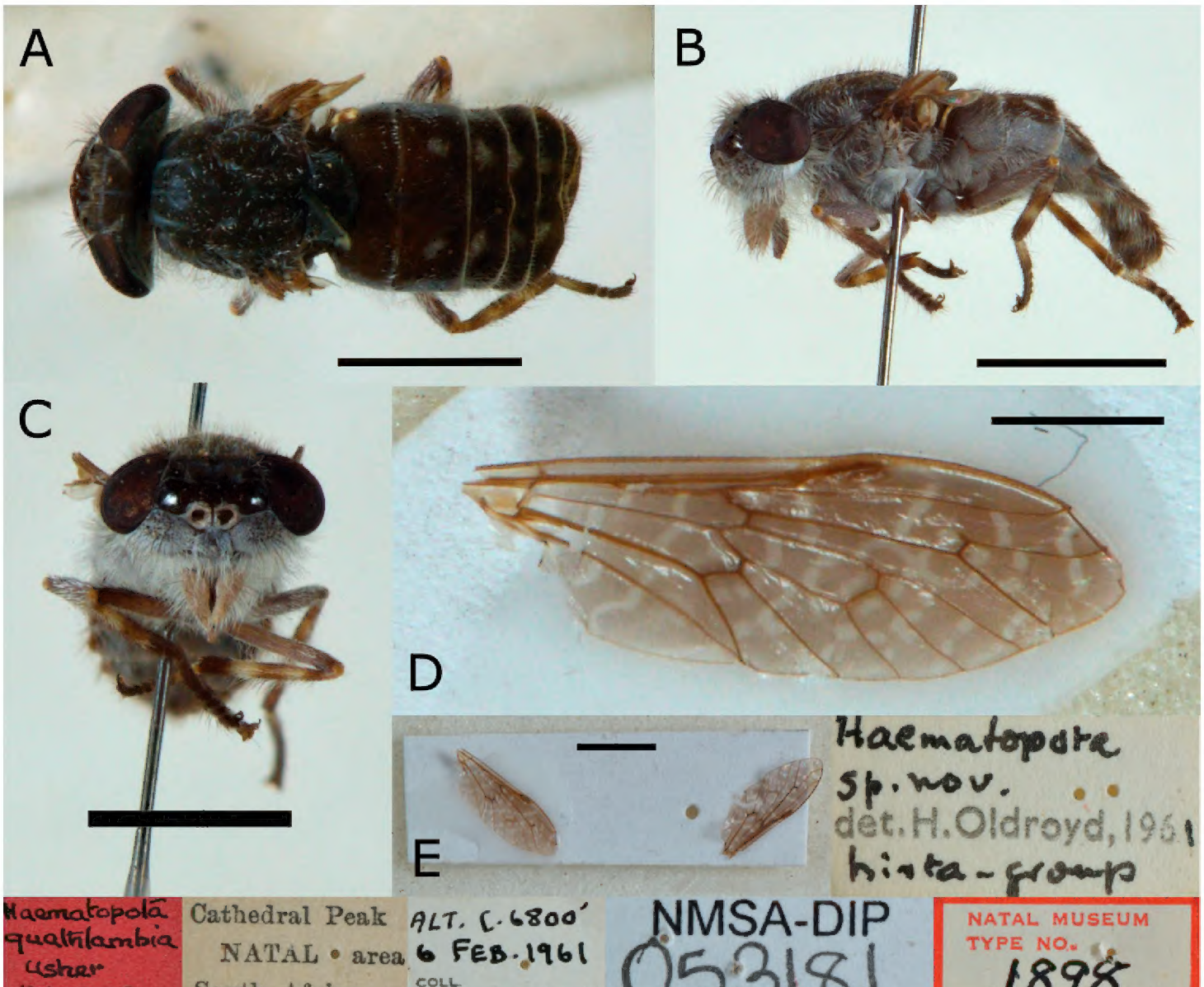

Figure 7. *Haematopota quathlambia* holotype **A** dorsal **B** lateral **C** head **D** wing **E** wings on card. Scale bars: 3 mm (**A, B, D, E**); 2 mm (**C**).

Current status. *Haematopota spectabilis* Oldroyd, 1952; original combination.

Remarks. The holotype was deposited at the then Onderstepoort Veterinary College. It is unclear how the specimen came to be in the KwaZulu-Natal Museum collection. There are five paratypes listed – none of these are in the KwaZulu-Natal Museum collection. One paratype is in the Museum of Comparative Zoology at Harvard University (Oldroyd 1952, pers. comm. with the Museum of Comparative Zoology). The holotype is double-mounted to an orange plastic card. The specimen is in a good condition apart from the flagellum and tarsus of fore- and midleg missing. All the missing parts are on the left side of the specimen.

***Haematopota tropai* Travassos Dias, 1956: 11 fig. 4.**

Holoype. ♀: Reunion W, 22 December 1949; NMSA-Dip 048258; type number 348. Fig. 9A–D.

Current Status. *Haematopota albihirta* Karsch, 1877.

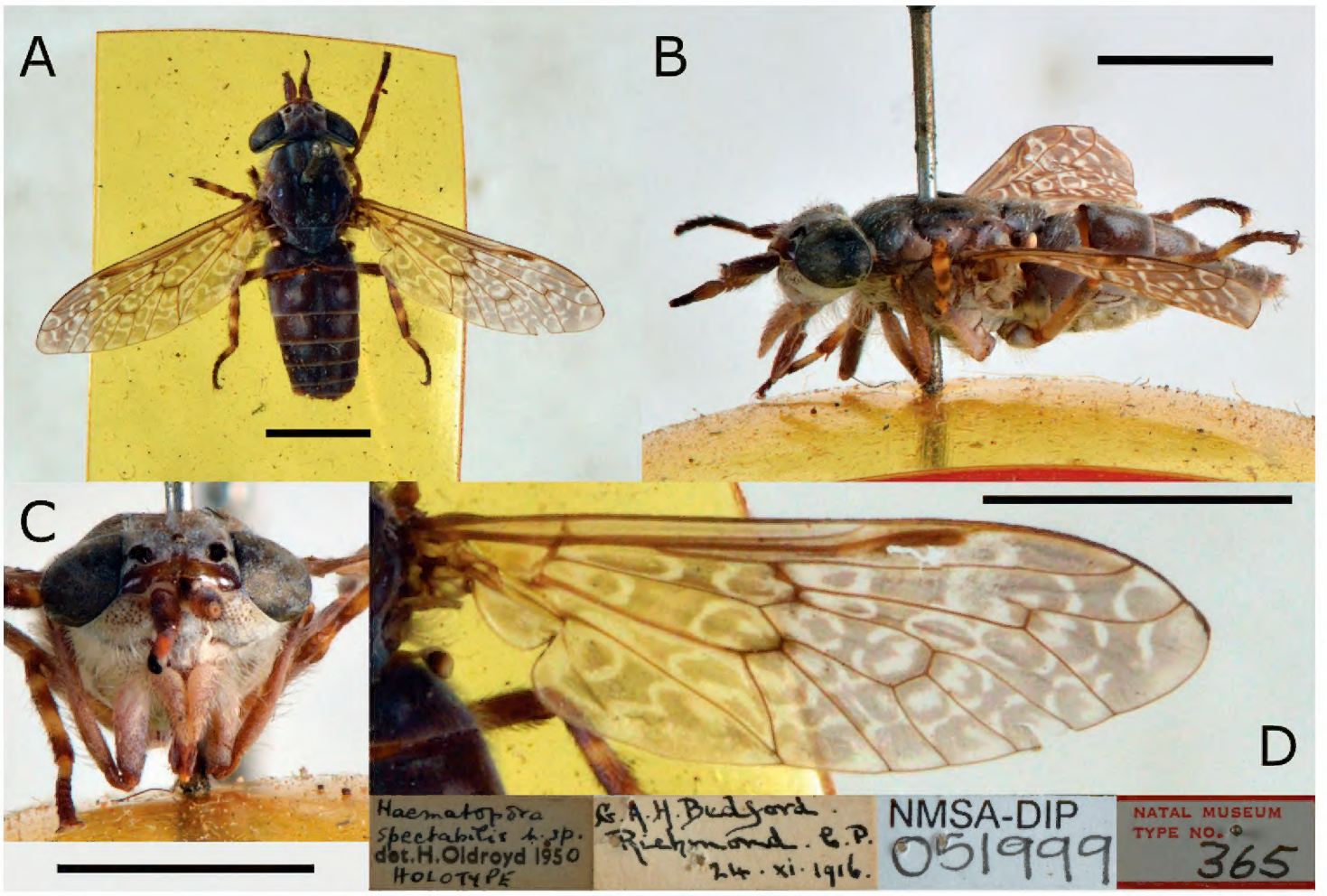

Figure 8. *Haematopota spectablilis* holotype **A** dorsal **B** lateral **C** head **D** wing. Scale bars: 3 mm.

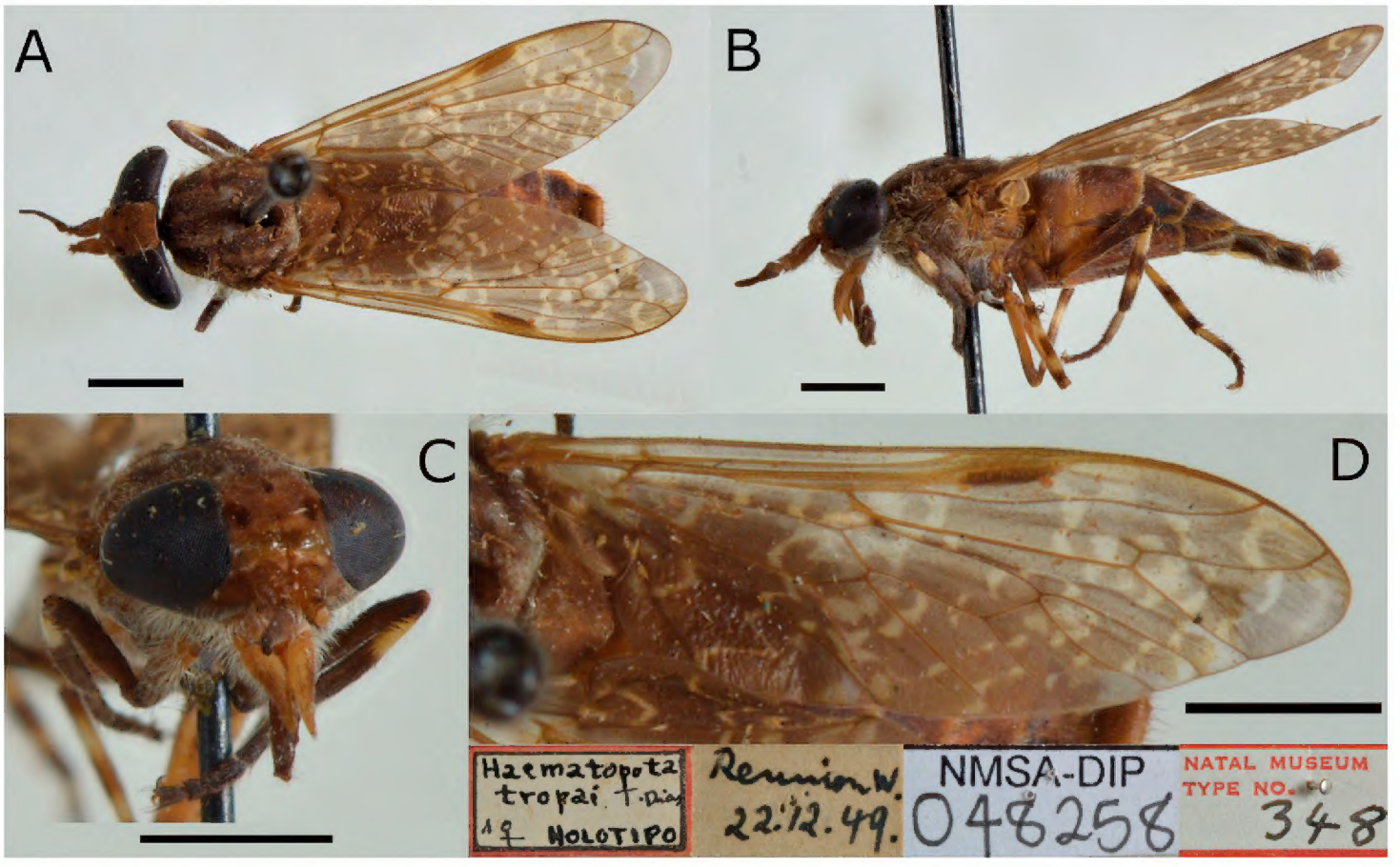

Figure 9. *Haematopota tropai* holotype **A** dorsal **B** lateral **C** head **D** wing. Scale bars: 2 mm.

Remarks. This species was synonymised with *Haematopota albihirta* by Usher (1972). There is no collector on the specimen label, but the publication lists Dr F. Zumpt as the collector. The holotype was deposited at the SAIMR. Part of this col-

lection was donated to the Natal Museum (now KwaZulu-Natal Museum - NMSA) in 1983. The locality in the publication says "Reunion W. (Cabo da Boa Esperanca)" which is ambiguous as the only locality known as Reunion in South Africa is listed as a populated place in a Gazetteer from 1954 with co-ordinates in the Northern Cape that does not relate to any town or populated place. It is unclear therefore if this is the locality or the island of Reunion. The specimen is in fair condition. A part of one antenna is missing.

Acknowledgements

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